

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 through 43 (Canceled).

44. (Previously Presented) A process for removing a substance from at least a portion of the surface of a reaction chamber, said process comprising:

providing a reactor chamber wherein at least a portion of the surface is at least partially coated with the substance and wherein the substance has a dielectric constant of 4.1 or greater and is at least one member of the group consisting of a transition metal oxide, a transition metal silicate, a Group 13 metal oxide, a Group 13 metal silicate, a nitrogen containing transition metal oxide, a nitrogen containing transition metal silicate, or a laminate comprising at least one layer of the group consisting of a transition metal oxide, a transition metal silicate, a Group 13 metal oxide, a Group 13 metal silicate, a nitrogen containing Group 13 metal oxide, a nitrogen containing Group 13 metal silicate, a nitrogen containing transition metal oxide, a nitrogen containing transition metal silicate;

introducing a reactive agent into the reaction chamber wherein the reactive agent comprises at least one fluoride containing compound and at least one other compound comprising BCl_3 wherein the amount of fluorine-containing compound is less than 50% by volume of an amount of the at least one other compound;

exposing the reactive agent to one or more energy sources sufficient to react the substance with the reactive agent and form a volatile product; and

removing the volatile product from the reaction chamber.

45. (Currently Amended) The process of claim 44 wherein the reactive agent at least one other compound further comprises at least one member selected from the group consisting of a boron-containing compound, a carbon-containing compound, a hydrogen-containing compound, a nitrogen-containing compound, a

chelating compound, a chlorosilane compound, a hydrochlorosilane compound, and an organochlorosilane compound.

46. (Previously Presented) The process of claim 44 wherein the reactive agent is exposed to one or more energy sources and the exposing step is conducted prior to the introducing step.
47. (Previously Presented) The process of claim 44 wherein the reactive agent is exposed to one or more energy sources and the exposing step is conducted during at least a portion of the introducing step.
48. (Previously Presented) The process of claim 44 wherein a temperature of the exposing step is at least 150 °C.
49. (Previously Presented) The process of claim 11 wherein a pressure of the exposing step is at least 10 mTorr.

Claims 50 through 51 (Canceled).

52. (Previously Presented) The process of claim 44 wherein the reactor is an atomic layer deposition reactor.
53. (Previously Presented) The process of claim 44 wherein the substance is at least one member selected from the group consisting of Al₂O₃, HfO₂, ZrO₂, HfSi_xO_y, ZrSi_xO_y, wherein x is greater than 0 and y is 2x + 2, Al₂Si_wO_z, where w is greater than 0 and z is 2w + 3, and any of the aforementioned compounds containing nitrogen.

54. (Previously Presented) The process of claim 44 wherein the substance is a laminate comprising layers of at least one material selected from the group consisting of a transition metal oxide, a transition metal silicate, a Group 13 metal oxide, a Group 13 metal silicate, a nitrogen containing transition metal oxide, a nitrogen containing transition metal silicate, a nitrogen containing Group 13 metal oxide, or a nitrogen containing Group 13 metal silicate.

Claims 55 through 56 (Canceled).

57. (Currently Amended) The process of claim 44 wherein the at least one other compound is further comprises a carbon-containing compound having the formula $C_xH_yCl_z$, wherein x is a number ranging from 1 to 6, y is a number ranging from 0 to 13, and z is a number ranging 1 from 14.

58. (Previously Presented) The process of claim 44 wherein the reactive agent is conveyed to the substance from a gas cylinder, a safe delivery system or a vacuum delivery system.

59. (Previously Presented) The process of claim 44 wherein the reactive agent is formed in situ by a point-of-use generator.

60. (Previously Presented) The process of claim 44 wherein the substance is contacted with the reactive agent diluted with an inert gas diluent.

61. (New) A process for cleaning a substance from a reactor surface, said process comprising:

providing a reactor wherein the reactor surface is at least partially coated with the substance and wherein the substance has a dielectric constant of 4.1 or greater and is at least one member of the group consisting of Al_2O_3 , HfO_2 , ZrO_2 , $HfSi_xO_y$, $ZrSi_xO_y$

wherein x is a number greater than 0 and y is $2x + 2$, $\text{Al}_2\text{Si}_w\text{O}_z$ wherein w is greater than 0 and z is $2w + 3$ and any of the aforementioned compounds containing nitrogen;

reacting the substance with a reactive agent to form a volatile product, wherein the reactive agent comprises at least one fluorine-containing compound comprising NF_3 and at least one other compound comprising BCl_3 wherein the amount of fluorine-containing compound is less than 50% by volume of an amount of the at least one other compound; and

removing the volatile product from the reactor to thereby remove the substance from the surface.